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RESEARCH REPORT

JOINT INTELLIGENCE SUPPORT FOR NAVAL AIR EMPLOYMENT IN SUPPORT OF LAND CAMPAIGNS

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JOINT INTELLIGENCE SUPPORT FOR NAVAL AIR EMPLOYMENT IN SUPPORT OF LAND CAMPAIGNS

by

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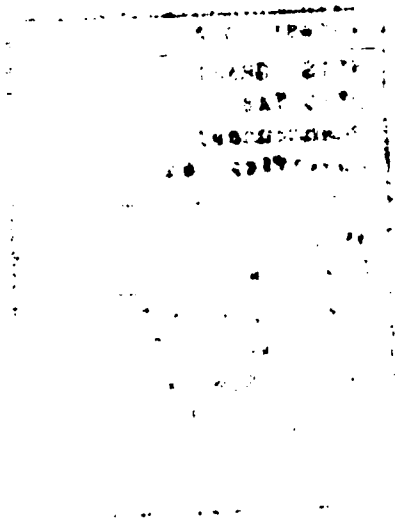

EXECUTIVE SUMMARY

TITLE: Joint Intelligence Support for Naval Air Employment in Support of Land Campaigns

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The use of Naval Air to supplement land airpower (Air Force and Army) in crisis and war requires timely and accurate intelligence exchanges between land and naval forces afloat. Historically, in Korea and Vietnam, such intelligence exchanges were effective due to extensive preplanning. Recent experience in Grenada points out there is a lack of such intelligence support available today on a daily basis to support either short warning conventional conflicts or crises. Several ways to overcome this intelligence shortfall are presented and analyzed.

BIOGRAPHICAL SKETCH

Lieutenant Colonel Joan G. Bullock (M.A., Webster College) is a career Air Force Intelligence Officer. She has had a wide variety of intelligence assignments at both the tactical and strategic levels and became interested in joint operations during her tour on the staff of Headquarters, U.S. European Command. During that assignment, she was involved in correcting intelligence shortfalls identified during operation El Dorado Canyon, the April 1986 U.S. air strikes on Libya. A 1985 Distinguished Graduate of the Air Command and Staff College, she is a graduate of the Air War College, Class of 1989.

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CHAPTER I

INTRODUCTION

The purpose of this study is to examine the issue of how to provide joint intelligence support to Naval Air Forces which are tasked to support an Army-Air Force land campaign. While each service has developed extensive resources to collect, analyze, store, and disseminate intelligence to support their own forces, there exists little ability for the services or the joint intelligence agencies (e.g., Defense Intelligence Agency (DIA), Intelligence Center Pacific) to rapidly exchange tactical strike information to deployed tactical forces. "The absence of some means of direct intelligence exchanges between the land and naval forces is the principal inhibitor for this type of assistance." (1:33) In a coalition war, this is an even greater problem due to a myriad of security restrictions and the lack of truly "joint" coalition intelligence analytical/fusion centers. As one military intelligence officer with extensive experience in wargaming recently commented, "Unfortunately there is virtually no system or process at the campaign level to coordinate this assistance in an expeditious manner." (1:33)

I will begin the study by defining this concept of Naval Air employment to include scenarios where it might be effective. I then will define what intelligence support the carrier battle force would require to be successful in such a mission. Next, I will examine historical examples of Naval Air employment in support of land campaigns

for both long lead-time (i.e., Vietnam, Libya Air Raid) and relatively short-notice (i.e., Grenada) operations to find out how intelligence was exchanged between the land and sea elements in the past and where problems occurred.

Having looked at historic examples, I will then outline current and projected intelligence capabilities that could provide this type of joint intelligence support. Where shortfalls exist, I will propose possible solutions and recommendations.

CHAPTER II

EMPLOYMENT OF NAVAL AIR IN SUPPORT OF LAND CAMPAIGNS

The employment of Naval Air in support of land campaigns is not a new concept. During both the Korean and Vietnam Wars, there was extensive use of Naval Air assets operating off of carriers primarily in the interdiction--both battlefield air interdiction and deep interdiction--and close air support roles. However, while the historical basis of Naval assets being employed in joint missions to support land warfare exists, in the years following Vietnam, the US Navy has been training and equipping itself for the more traditional naval roles of sea control, power projection, and sealift as a single maritime force--not in a joint role to support Army-Air Force land warfare. The "600 ship navy" is a concept to achieve naval superiority over the Soviets based on these traditional roles under the US Navy's declared "Maritime Strategy." Strategists are now beginning to recognize the real potential for Navy assets, Naval Air assets in particular, to also directly support land warfare in a truly joint role.

Admiral Watkins, a former Chief of Naval Operations, stated one of the objectives of the US Navy's Maritime Strategy is ". . . to influence the land battle by limiting redeployment of forces, by ensuring reinforcement and resupply, and by direct application of carrier air and amphibious power." (1:3) In a recent study on combined warfare by the Marines, the conclusion was, "Neither the Navy nor Marine Corps can afford to become preoccupied solely with blue-water operations

or land warfare. Both must be prepared for the integration of land and sea operations . . . ." (2:82) It is highly probable our next conflict will not allow for separate operations. "Our likely opponents will be big, fast, and synchronized: the war violent and total. To have any chance of winning, we must know how to apply naval power to land campaigns effectively." (3:50)

The Joint Chiefs of Staff (JCS) have recognized support of the land battle is an appropriate mission of maritime forces by including it in the latest version of JCS Publication 2, Unified Action Armed Forces. Collateral functions for the US Navy and Marine Corps include:

> To interdict enemy land, air power, and communications through operations at sea.
> To conduct close air and naval support for land operations. (4:2-10)

Looking then just at carrier-based Naval Air, the capability exists to perform several missions to support land warfare. The A-6E/F and F/A-18A forces can carry out close air support (CAS), battlefield air interdiction (BAI), air interdiction (AI), and offensive counterair (OCA). The F/A-18A and F-14 also have the ability to perform defensive counterair (DCA).

Use of Naval Air in these roles presumes the Naval Component Commander will be able to release his Naval Air assets to the theater Air Component Commander for support to the land campaign. This study is not advocating the Air Component Commander automatically include all Naval Air assets in his apportionment/allocation plan. However, if the Naval assets were available, it is essential we be able o employ them to ensure all airpower assets are brought to bear where and when needed. In a NATO/Warsaw Pact war scenario, it is possible all available Air

Force and Army Air assets could be committed when a Soviet Operational Maneuver Group (OMG) achieves a breakthrough to a NATO rear area threatening the security of friendly logistics and command and control facilities. Available and uncommitted Naval Air might be able to strike fast in a CAS or BAI role to disrupt and halt their advance while avoiding the need to divert other air forces already committed and possibly engaged. In NATO's Southern Region, assuming the Sixth Fleet was successfully able to bottle up the Soviet Black Sea Fleet in the Black Sea, excess Naval Air assets could be used to supplement the OCA efforts of the NATO Air Forces to protect key air bases and command and control facilities in Turkey, Greece, and Italy. Additionally, Naval Air CAS missions could support troops in combat in Turkish Thrace or Greece.

But these are all scenarios neither the US sea nor land forces have trained for or practiced. Until now, ". . . the assumption was that naval forces did not have much influence on the land battle . . ." (5:1023) It is time to recognize they could and take action to ensure proper procedures are instituted and practiced to allow for such employment. The conclusion to a recent paper on this subject was,

> Naval Forces offer a tremendous potential for enhancing the operational theater commander's ability to win the campaign ashore. This potential can be achieved without reducing the ability of naval forces to attain their primary aim—winning the war at sea. But to do it we have to change the way we think, use officers who understand the issues, plan intelligently, and exercise the way we intend or will be forced, to fight. (3:55)

Intelligence support is one key area where the services need to plan information exchanges to enable this concept to work. Through years of independent operations, naval and land forces have developed unique,

non-interoperable intelligence systems to support their tactical operations. New methods and techniques to provide joint intelligence support will need to be developed and practiced if this concept of Naval Air employment is to be effective. The next chapter will define what joint intelligence support requirements exist for Naval Air support of the land battle.

CHAPTER III

INTELLIGENCE REQUIREMENTS

This chapter will address intelligence requirements to support tactical strike operations for the various missions for Naval Air assets in support of land campaigns. These include CAS, BAI, AI, OCA, and DCA. The majority of this information is based on personal experience with tactical organizations, from discussions with Naval Operators, and experience in real-world exercises and with real-world tactical operations planning. The chapter will conclude with intelligence requirements for joint and multi-service operations.

There are two basic types of intelligence information required for all tactical employments: threat data and target data. Threat data outline the location and capabilities of systems or forces that prevent friendly forces from accomplishing their mission by either disrupting, delaying, or destroying those forces. The most common threats to air assets are surface-to-air missiles (SAMs), antiaircraft artillery (AAA), or opposing aircraft such as fighter interceptors. Less destructive threats, but still potentially effective in delaying or disrupting friendly forces, include electronic measures to confuse or destroy targeting guidance systems as well as camouflage, concealment, or deception measures designed to confuse, disorient, or disrupt the operators or target acquisition systems. As all of these threats can be from both mobile as well as static systems, intelligence as to their

exact locations and ranges can be highly perishable underscoring a need for threat intelligence that is both correct and near real-time.

Threat data are critical to the effectiveness of a strike mission, and it is imperative it be as accurate and timely as possible. This requires the ability to identify threats in the target area ideally through a combination of visual reporting, pre-strike imagery, reconnaissance, and electronic signals analysis immediately prior to the strike. Enemy threat data are used to tailor flight paths to avoid lethal threats, to structure force packages to include aircraft to help degrade or destroy potential threats, and to configure the appropriate self-defense weapons onboard the aircraft to counter enemy defenses through either active weapons or electronic (i.e., jamming) systems.

The second type of intelligence critical to strike operations is target intelligence. To begin with, one needs accurate positional data to locate the enemy target. Additionally, one needs a description of the target to determine the proper weapon system or weapons load and attack method to effect the desired destruction or disruption. Depending on the target, this type of information may be perishable (for a column of moving tanks) or static (for a power plant). Targeting intelligence is best obtained from multiple intelligence sources to include recent visual observation, human intelligence reports, pre-strike imagery reconnaissance, and signals intelligence. Also critical is post-strike target intelligence to discern the effectiveness of the mission and determine the need for follow-on attacks.

Looking at each potential Naval Air mission individually, it becomes obvious that CAS will be heavily dependent on perishable

intelligence reporting regarding both threats and targets and will therefore be the most time-sensitive in terms of intelligence demands. In the past, updated intelligence for CAS has best been provided through the use of spotters or forward air controllers on the scene and in direct contact with strike forces. Some degree of prior intelligence on targets (armor, bunkers, personnel) and possible threats is highly desirable to aid in effectively configuring the aircraft for weapons and self-protection.

Interdiction missions, both AI and BAI, will require highly accurate threat data if they are to successfully evade or suppress the enemy's defenses. Timely target data will be particularly key to a successful BAI strike as it is likely BAI targets will be on the move. Thus, BAI missions need some type of ability to update target data once enroute to assigned targets--either directly from intelligence sensors or from theater intelligence analysis/fusion centers. AI targets are likely to be heavily defended, although more static than either BAI or CAS targets. Therefore, AI missions can be planned with pre-strike threat and target intelligence and will not normally need intelligence updates once the mission is enroute the target. For the most effective employment of aircraft committed to AI and BAI targets, secondary targets on which adequate threat and target intelligence exists should also be pre-planned for the mission in case weather or other factors preclude attacking the primary target.

OCA and DCA missions will require real-time threat and target intelligence from either ground or air defense command and control systems. Additionally, the intelligence must be rapidly updatable while

the aircraft are airborne. OCA strike missions will have target intelligence requirements similar to AI targets--in depth, pre-strike target and threat intelligence of a fairly static nature.

Thus, while there are two essential types of intelligence data needed (threat and target) to employ Naval Air assets in support of the land battle, there are unique aspects to the intelligence support problems based on the type of mission the air assets are tasked to fly. Therefore, depending on the amount of risk to the aircraft and crew the mission planner or commander is willing to accept, it is possible intelligence, or the lack thereof, could become the limiting factor to which missions Naval Air can realistically support in a land campaign. For example, there would be little utility in tasking a Naval Air CAS mission if targeting data could not be passed to the aircraft once they arrive in the target area.

Turning to intelligence requirements for joint or multi-service operations, JCS Publication 2 states,

> Defense intelligence systems and organizations must possess the capability to provide information exchange among the services, commands, agencies, allies, and international organizations. The evolution of modern intelligence information handling systems should be toward an interoperable system that will produce and rapidly disseminate dynamic situation assessments and displays, while providing multilevel security features to protect certain categories or items of intelligence and preclude their release to unauthorized organizations or individuals. (1:3-47)

This is clearly the desired situation, but, unfortunately, is one that today does not exist. Each service has its own intelligence structure, systems, procedures, and chain of command. Sharing, except at the DOD level (DIA), is not widespread, and most service intelligence personnel are not even aware of sister service intelligence capabilities or

units--even in their own theaters of operation. (3) Indeed, JCS Publication 2 goes on to further state, "Intelligence systems must be interoperable to ensure success in joint operations. Intelligence doctrine, such as that for procedures and systems, must provide for interoperability." (1:3-49) The problem today is, in the words of former Defense Intelligence Agency (DIA) Director, Lieutenant General James A. Williams, "No entity is charged with developing joint intelligence service doctrine or assuring coordination of service doctrine." (2:24)

While informal communication with DIA indicates this process of institutionalizing a joint intelligence doctrine is now in progress, it has just begun, however, and much work remains before the goal of interoperable service intelligence systems is realized. Today, the services rely on a multitude of service unique, non-interoperable intelligence systems to exploit and store intelligence data—both threat and target. In the past, when there was enough time to preplan, this intelligence "separateness" did not hinder the effectiveness of joint operations such as we employed in Korea and Vietnam. However, when sufficient time was not available to arrange for intelligence interservice sharing, as in Grenada, the intelligence support for the entire joint operation was found to be lacking. Historical examples will be examined in the next chapter to determine how joint intelligence support was provided in past joint operations and lessons learned that may be applicable for better joint intelligence support in the future.

CHAPTER IV

HISTORICAL PERSPECTIVES

In this chapter I will examine historical cases where Naval Air assets were employed in support of Army-Air Force land campaigns to discern how the intelligence support was provided, how effective that support was, and lessons that may apply for the future. I will begin by looking at two cases, Korea and Vietnam, where there was time to pre-arrange the intelligence support, then one more recent example, Grenada, operation Urgent Fury, when there was no pre-arranged support due to short notice. I will also briefly review one other joint operation, the 1986 US air raid on Libya, operation El Dorado Canyon, as well as a recent US joint exercise, Sand Eagle 88-1.

Looking first at Korea, virtually all Naval Air assets were committed to the land campaign. This was essentially the first time such an extensive joint tactical air campaign was conducted, and there were numerous problems with the coordination of land-based and carrier-based air to include command and control and target intelligence. The Naval assets were from Task Force 77 positioned off the east coast of Korea and were used primarily for BAI and CAS missions. The CAS missions were directed by ground controllers based on real-time intelligence from units in combat. For the BAI targets, each service was originally choosing its own targets based on service-derived intelligence. This prevented the air strike effort from being massed or coordinated and delayed the institution of a comprehensive theater air

interdiction campaign. (1:52) The Naval Component Commander, Naval Forces Far East (NAVFE), initially requested all Navy targets come from an exclusive Naval Air area of operations. NAVFE was concerned he was being tasked to operate too far from his carrier support base and its resident intelligence data bases while unnecessarily complicating command and control. The Air Component Commander, FEAF, did not agree as he felt assigning separate Naval Air operating areas would limit his ability to employ airpower to its greatest advantage by imposing arbitrary geographical limits. (2:58) The result was the formation of a General Headquarters (GHQ) Target Group established at Far East Command Headquarters in Tokyo. This group's effectiveness was hindered by obsolete maps, inability to read maps, and conflicting intelligence reporting from various service staffs. (1:52) Coordination among NAVFE, Fifth Air Force, and FEAF on targeting and intelligence matters was slow as the only link was a Naval liaison officer in the Fifth Air Force Joint Operations Center (JOC). (2:58) Additionally, Task Force 77 was under radio silence and due to differing message center procedures, did not receive the air strike results hindering their ability to determine their own effectiveness and need for additional strike missions. (1:49)

It is difficult to assess the intelligence support for the joint forces in Korea due to a non-standard command arrangement in which there was not a truly joint staff. Intelligence was fragmented among the services and coordination was basically non-existent except for what could be passed through the Naval liaison officer in the Fifth Air Force JOC. The resulting air campaign, though effective, was hindered by

overlapping targets, missed targets due to erroneous map data, and inappropriate target loads due to inaccurate intelligence. (1:52)

In Vietnam, Naval Air's role in support of the land campaign expanded to include extensive AI as well as BAI and CAS. This time there was a well-defined joint structure in control of the air war directing missions and providing additional intelligence support. For the first time in history, national intelligence information could also supplement tactical reconnaissance in providing both threat and target data.

> Although details on specific targets often came from national intelligence agencies, this information was slow in reaching the field and had little influence on the hourly decisions of how best to strike the targets. For weekly projections of strike operations, however, national intelligence information was used extensively. . . . For day to day operations, I [7th AF Commander] depended upon the tactical reconnaissance force. (2:233)

This intelligence data, both threat and target, were quickly relayed to both Air Force and Naval units through message communications. Unlike Korea, both units had the same source data and updates to work with. Once missions were airborne, the Airborne Battlefield Command, Communications, and Control aircraft (ABCCC-College Eye) acted as an information center to keep strike force commanders informed on the friendly and enemy air situation, weather, and special intelligence. Additionally, ABCCC was tied into the Navy's early warning ship, Piraz, which provided early warning intelligence (about 10,000 ft and 50 miles inland) to the carrier battle forces and enemy fighter (MIG) information for Navy fighters operating in Route Pack VI. (2:154) Due to the perishable nature of threat data and target information in Vietnam, the Forward Air Controller (FAC) "became the fundamental means by which all

strikes were controlled." (2:266) "The FAC was a constant source of intelligence which was funnelled into the ABCCC . . . 7th Air Force intelligence fed targets to ABCCC as well." (2:202) Strike results were assessed initially by theater tactical reconnaissance assets—detailed interpretation was provided later by national intelligence agencies from national intelligence assets. (2:232-33) Also unlike Korea, in Vietnam both Air Force and Naval units received the strike results to help plan future missions.

In Vietnam, improved communications, enhanced intelligence collection abilities, a defined chain of command, and standard concepts of employment led to extensive and supportive intelligence networks between the services. The threat and target data bases were the same, and there was a method for quickly updating the information. There was also a coordinated method, the FAC-ABCCC network, available to update in real-time target locations and threat data for airborne CAS missions. However, it was essential for the Navy ships and aircraft to be able to rapidly communicate with the ABCCC to receive the intelligence as it became available. Once the Vietnam air campaign was designed to be a joint Navy-Air Force campaign, the communications networks were put into place to support the intelligence flow. But these networks had to be designed and implemented. They were not in place or practiced prior to hostilities.

The 1983 joint operation in Grenada, Urgent Fury, to rescue American students and secure the island, came some eleven years after the war in Vietnam ended. In those eleven years, many changes had taken place in service training and capabilities that would negatively impact

on the ability of the services to mount a virtually no-notice, combined assault on a little known island.

In contrast to Vietnam, the Naval Air assets were to be used strictly for CAS during this attack. Since the carrier was diverted enroute to the Mediterranean, there was virtually no prepositioned intelligence data (to include maps) on Grenada onboard. Threat data were provided from DIA by electronic message. Since there was no way of electronically transmitting the necessary map data, what maps were available elsewhere had to be flown to the carrier resulting in delays to the mission planning afloat. (3:42) Additionally, although the Navy was given the CAS mission of supporting the US Army Rangers, "The U.S. Navy was not represented at any Ranger planning sessions so no coordination for destroyer and Naval Air support was possible." (4:23) Navy aviators in the 87th and 15th attack squadrons off of the carrier Independence were to support the Rangers when they had never talked to their representatives or Air Force FACs ahead of time. "As a result, we (US Navy) went into combat the first day with absolutely no knowledge of, or coordination with, the Ranger operation." (4:23) It is no wonder that the Navy commander's after action report complained the Army, "in general," did not understand how Navy tactical aircraft operated, what the capabilities of the Navy A-7s were, and had difficulty identifying targets for the Navy pilots. (4:23) A second Navy after action report stated, "Needless to say, a target brief that says 'your target is the white building on the green ridge' just does not hack it when there are thousands of white houses on thousands of green ridges." (4:23) Other instances of wrong targeting information involved the misidentification

of a mental hospital as a valid target that was subsequently bombed by US aircraft, and the Marines almost attacking the Venezuelan Embassy. (5:139) When intelligence information was available, it was often not transmitted or received due to a multitude of communications problems. "Army Military Intelligence officers complained that they could not talk to counterparts [Army or Navy] in other units. . . ." (4:28) A recent study of command, control, and communications (C3) in Grenada concluded,

> . . . the invasion of Grenada pointed out quite clearly the need for and (sic) expanded intelligence distribution system. As more and more intelligence data is collected, there must be the wherewithal to get that data to the tactical commander in near real-time. Furthermore, tactical commanders must have the capacity to analyze and correlate the data for immediate use. (3:47)

The interservice intelligence cooperation and coordination that had been so finely sharpened in the jungles of Vietnam seemed to have totally dissipated by the time the US was involved in the jungles of Grenada.

Three years later, 1986, the Navy and the Air Force would be tasked to execute a joint air strike on the nation of Libya. Unlike operation Urgent Fury, operation El Dorado Canyon was to have an extensive planning phase. This time proved to be crucial in obtaining the necessary intelligence sharing between the Navy and the Air Force. Intelligence exchanges to solve shortfalls in the normal service tactical intelligence distribution procedures had to be instituted and practiced.

> . . . the planning phase of the operation clearly pointed out the requirement for an expanded intelligence distribution system. Liaison intelligence and weaponeering personnel were also required to support wing level analyses. Time and multiple contingencies may preclude such a deployment of skills in the future. Plus in a truly joint operation, the crossflow of intelligence between services could be critical. (3:62)

Specifically, in the Libya operation, target selection and weaponeering requirements were critical to mission success. This meant that the local service weaponeering (intelligence and operations) experts were the ones who needed to do the target analysis, even though the target intelligence materials were not co-located. This involved personnel performing temporary duty at various tactical locations in Europe and extensive classified courier operations. Over the three and one-half months between mission notification and execution, some 12,000 intelligence photos had to be handcarried to three separate locations due to the lack of an electronic imagery dissemination system. (3:58) In a crisis or wartime situation, there might not be the time available to mount a similar operation. In contrast to the target intelligence data, intelligence threat data for planning the Libya operation was quickly passed using secure communications channels once those service units holding the information were identified and communications routing established. Although not an automatic process, it became one during the planning phase being fairly rapidly established (within 24 hours).

Sand Eagle 88-1 was an Army, Air Force, and Navy joint training exercise "intended to provide training in the Crisis Action System by responding to a rapidly developing crisis." (6:5) Land-based Naval Aviation forces participated to test the tasking of Naval sorties in support of the Army for CAS. These sorties were to be controlled by ABCCC and airborne FACs--similar to Vietnam. Despite a pre-planning phase of at least three months, there were still problems with intelligence support. Maps provided by the Army were not available to the Navy when needed for mission planning. The lack of a single source

document to provide guidance on intelligence reporting resulted in confusion on which reports were required and where to send them. All units did not have the same starting intelligence data base causing confusion on threat and targeting data. Additionally, not all units received all intelligence reports containing updated threat data. (6:21,44,45) It appears interservice intelligence coordination and cooperation, while it can be done, may take several weeks to perfect.

From looking back over the past record of Naval Air operations in support of land forces, it would appear Vietnam marked the highpoint of efficient interservice intelligence support of a land campaign. Not surprising as it was a fairly limited air war (area of operations and types of engagements) that all of the services had seven years to adapt to. What is surprising is that in the aftermath, the services seem to have gone separate ways in developing intelligence to support tactical operations and are now hard-pressed to interact unless extensive time is available to work around communications and equipment non-interoperability problems. Specific problems include the need to standardize service threat and intelligence target data bases, to provide for simultaneous and timely update of those data bases, to be able to transmit and receive intelligence imagery for targeting purposes, and to communicate in real-time among the various intelligence staffs in a theater. In the next chapter, I will look at current and future intelligence capabilities to see if there are ways to improve the intelligence support available to assist in joint operations.

CHAPTER V

INTELLIGENCE CAPABILITIES

This chapter will examine current and projected intelligence capabilities to support tactical strike operations. In Chapter III, it was noted there are two basic types of intelligence needed to support such operations--threat intelligence and target intelligence. In Chapter IV, it became evident that intelligence was of little value if it could not be passed in a timely manner to the mission planner or aircrew who needed it. For effective Naval Air employment in support of land campaigns, the individual service intelligence on the land battle needs to be rapidly available, transmittable, and receivable among all the services involved.

The current capabilities of a carrier battle group's intelligence center are designed to support sustained carrier air operations in traditional Naval roles of power projection, sea control, and sealift as a singular maritime force or, at most, in conjunction with the Marines. As these missions have had limited requirements to operate with the Army or Air Force, onboard threat intelligence information is limited to areas contiguous to the water area of deployment. The threat information is computerized but has to be manually updated during deployments based on message inputs from supporting naval intelligence centers ashore. Computer tapes are provided to update the data base but are usually out-of-date by the time they are received. Threat data for land areas 200 NM beyond the shore

are simply not normally available and would have to be requested through the Naval chain of command. (1)

Target intelligence data are even harder to obtain. Unless the carrier deploys with a preplanned strike mission package, all strike mission target materials have to be requested from a shore intelligence facility and flown in. Some minimum target intelligence support is available by electronic transmission to include photography for target identification with the Fleet Imagery Support Terminal (FIST) system; however, the imagery received is not normally high enough quality for detailed weaponeering. There is quite extensive tactical reconnaissance ability onboard the carrier assuming the strike area is within reconnaissance range, and there is time to fly pre-strike reconnaissance in the target area. For a quick reaction land campaign support (Army-Air Force) mission, this would not normally be an option due either to range, defenses in the strike area, or time factors. Maps for a carrier's area of interest are generally available due to digitized systems and microfiche and are not today perceived to be a problem for a carrier. It was the opinion of the current Chief of Intelligence onboard the carrier USS Forrestal that strike missions to support a land campaign could theoretically be planned with onboard intelligence capabilities provided accurate coordinates were provided by the requester. However, without outside intelligence support to provide up-to-date threat intelligence information, the aircrews and aircraft would be at considerable risk. Additionally, without actual target photography and descriptions for accurate weaponeering, the strike mission's effectiveness would not likely be high. The USS Forrestal's

Chief of Intelligence estimated it would take a minimum of three to five days to obtain the necessary threat and target data through his Navy sources to adequately plan an unexpected land mission to acceptable crew risk and effectiveness levels. An interesting fact was the intelligence chief was totally unaware of non-Navy US intelligence shore facilities within the theater from which he could request more timely support. He was only aware of Naval intelligence centers and how to contact them. (1)

Ironically, the information the carrier intelligence center needs to plan a strike mission in support of a land campaign is most likely readily available in a combination of Army and Air Force intelligence centers within his theater of operations, not within his Naval chain of command. Assuming communications channels exist, threat data should be transmittable over regular secure communications channels within hours. Detailed targeting data would take longer, but should be available from other services within six hours. If target photography was needed, depending on availability, it would have to be flown in to the carrier force. This could take anywhere from 12 hours to 1 week depending on mission priority. Imagery and data systems are being developed by each service, however, that if modified for interoperability and tied into onboard carrier systems, could greatly reduce these time delays.

Looking first at threat data, the Joint Tactical Fusion Program (JTFP) is a joint Army and Air Force effort to develop a computerized ability to process, analyze, and distribute intelligence data from various sources. The Army's system known as the All Source Analysis

System (ASAS) will be completely interoperable with the Air Force's Enemy Situation and Correlation Element (ENSCE). They will both be linked together and automatically update each other to provide a common view of the battlefield threat in near real-time. They will be tied in to both tactical and national sensors and provide a graphical presentation for commanders. The data are primarily intended for tactical commanders, but ". . . can be used to project enemy routes of advance and locations over time, allowing commanders to plan interdiction strikes." (2:84) The ASAS/ENSCE systems would appear to have potential application to distribute threat and target intelligence data on the land battle in near real-time to Naval units as well. ASAS/ENSCE terminals should be available in the early 1990s. (2:84)

The Joint Tactical Information Data System (JTIDS) also has some potential to provide threat intelligence but directly to the aircrews vice to offshore carriers. JTIDS is a secure, jam-resistant data link being developed for all four services. It should be able to provide high speed, high volume data to include identity and location of both air and ground threats. JTIDS terminals are programmed to go on Navy F-14D and E-2C aircraft as well as the Air Force's Airborne Warning and Control System (AWACS) aircraft. JTIDS will give fighter-bombers a greater awareness of the combat situation and permit more efficient target assignment. (3:51) JTIDS will also link target intelligence data from the Joint Surveillance and Target Attack Radar System (JSTARS) to those aircraft with JTIDS terminals. (4:1050) JSTARS is a stand-off system designed to sense activity over a broad area and identify BAI and AI targets for deep attack. JSTARS will then downlink the targeting

information in real-time to ground stations and JTIDS terminals. (5:137) It would seem the Navy could better prepare for land campaign support by also placing JTIDS terminals on Navy strike aircraft (F/A-18, A-6, and the Advanced Tactical Aircraft (ATA)).

The toughest part of the target intelligence package to date has been the transmission of actual strike planning quality imagery. This problem was highlighted most recently during the planning phases for operation El Dorado Canyon and resulted in a renewed push by the Air Force and Army to each obtain some type of imagery electronic dissemination capability. While the Navy's FIST system is today operational and can transmit and receive imagery among certain Naval intelligence units, FIST is not interoperable among all the services limiting who may transmit and receive images by this means. Additionally, to date, FIST has not produced high enough quality prints for accurate weaponeering. (1) The Navy is trying to improve the print quality, but unless the Air Force and Army intelligence centers can interoperate with FIST, its use to support land campaign targeting will be very limited. Under DIA auspices, "A major effort to solve the problem of multiple incompatible service work stations for the reception, transmission and processing of images and associated data currently is underway." (6:37) The DIA forum provides guidance to all the services on development and interoperability issues. DIA is also looking at alternate networks to pass imagery among interservice users. Unfortunately, not much progress has been made, and each service continues to pursue its own projects.

It is evident there are programs underway that hold promise of improving the flow of land intelligence data to the fleet. The next chapter will recommend actions to integrate these programs and develop new ones to allow for successful intelligence exchange among the services.

CHAPTER VI

RECOMMENDATIONS

In reviewing the lessons from Korea, Vietnam, Grenada, and Libya, it becomes evident that the Navy, Army, and Air Force reached a high point of interservice intelligence support for land campaigns during the Vietnam War. Since then the services have gone their own way in developing intelligence systems to support tactical operations apparently believing these historical examples of joint operations were the exception, not the models for future conflict. Grenada and Libya should underscore the time is now to start rethinking how to provide better interservice intelligence support. Many programs already underway can provide the basis.

To start, there needs to be a "rethinking" in both the intelligence and operations worlds of all the services about what constitutes an intelligence system or sensor or collector. Too often, the intelligence communities have focused their efforts and interests only on systems designed strictly for intelligence uses and ignored the intelligence potentials of command and control programs. Examples abound but the most recent include the AWACS and JSTARS programs--both of which have substantial potential to improve and enhance intelligence support to operations but have not been fully integrated into intelligence planning and analysis due to parochial thinking that they are "operations" not "intelligence" systems. We can no longer afford such narrow thinking and need to take steps now to fully use the

intelligence capabilities of AWACS, JSTARS, JTIDS, and such programs. Hopefully, the joint intelligence doctrine being written and staffed by DIA will consider this issue and bring some new thinking to the integration of operations and intelligence.

Other immediate recommendations include the Navy linking into the Joint Tactical Fusion Program to be able to interoperate with ASAS/ENSCE to provide near real-time intelligence threat data to the carrier battle group. Two versions, a less detailed one for the commander and a more detailed one for the actual mission planners, would be ideal. Additionally, expanding the JTIDS program to include terminals in the F/A-18, A-6, and ATA, as well as the F-14, would enable all to receive real-time threat and target data to allow rapid employment in CAS, OCA, and BAI roles in the land campaign. Moreover, the Army and Air Force need to design their imagery dissemination systems to be interoperable with each other as well as with the Navy's FIST system. The Navy also needs to upgrade the FIST print quality to allow target weaponeering.

Also, all service intelligence units need to become familiar with the various theater service intelligence facilities, capabilities, communications, and locations to enable direct interface if necessary to obtain timely intelligence support. DIA would be the appropriate agency to publish a handbook to expedite cross-service intelligence support in peace, crisis, and war. It is possible such an index could be added into computerized data bases or hard copy documents already in distribution by DIA to all intelligence organizations.

As with all tactical employment concepts, unless they are practiced, they are not usually as effective. Naval Air assets and supporting intelligence structures need to be tasked to support land operations in exercises—both joint and service. The Air Force Sand Eagle program is a step in this direction and should be expanded. We need to train as we will fight to obtain maximum efficiency and identify needed improvements. In the words of the former Chairman of the JCS, General John A. Wickham, Jr.,

> We must practice jointness through exercises with joint and coalition forces, and we must undertake initiatives that coordinate programs of development and acquisition so that, when equipment is delivered to fighting forces, the equipment not only will be reliable but also interoperable. (1:17)

As additional training and exercises are conducted, further areas of improvement will surface, but for now, the above constitutes a notable start to improve what is now a serious shortfall in combat ability. Commander Fisher's estimate of three to five days minimum to prepare a tactical air strike in support of a land campaign (2) makes it of little use to the tactical commander who needs support today.

CHAPTER VII

CONCLUSIONS

This study was to examine the question of how to provide interservice intelligence support for Naval Air assets tasked to support land campaigns. In light of past experience and current strategic thought, it is a viable joint employment concept that should be planned for and exercised. In exploring the past experience and current capabilities, it is my belief there are needed improvements to current and projected joint intelligence exploitation and dissemination systems as well as to service and joint intelligence doctrinal issues. If improvements are not made, and the employment concepts not tested or exercised, they may not be viable options when needed. There may not be time, as there was for the Libyan air strikes, to circumvent the problems of unavailable or unusable intelligence needed to accomplish the mission.

In the words of the former Director of DIA, Lieutenant General Leonard H. Perroots,

> Putting timely, useful intelligence in the hands of a myriad of consumers where and when they need it is the raison d'etre of military intelligence. The failure to provide that link at a critical moment may mean the difference between success and failure in a future operation. (1:31)

NOTES

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GLOSSARY

AAA	Antiaircraft artillery
ABCCC	Airborne Battlefield Command Control Communications
AI	Air interdiction
ASAS	All Source Analysis System
ATA	Advanced Tactical Aircraft
AWACS	Airborne Warning and Control System
BAI	Battlefield air interdiction
CAS	Close air support
DCA	Defensive counterair
DIA	Defense Intelligence Agency
ENSCE	Enemy Situation and Correlation Element
FAC	Forward air controller
FEAF	Far East Air Forces
FIST	Fleet Imagery Support Terminal
GHQ	General Headquarters
JCS	Joint Chiefs of Staff
JOC	Joint Operations Center
JSTARS	Joint Surveillance and Target Attack Radar System
JTFP	Joint Tactical Fusion Program
JTIDS	Joint Tactical Information Data System
NATO	North Atlantic Treaty Organization
NAVFE	Naval Forces Far East
OCA	Offensive counterair
OMG	Operational Maneuver Group
SAM	Surface-to-air missile